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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,645	08/28/2003	Kotaro Akutsu	00862.023197.	5560
5514	7590	09/08/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			SMITH, JOHNNIE L	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,645

Applicant(s)

AKUTSU, KOTARO

Examiner

Johnnie L Smith II

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1209/0828</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication 2001/0055117 (Mizutani). In reference to claims 1, 6, and 10, Mizutani teaches an exposure apparatus which draws a pattern on a substrate with electron beams, having a substrate stage; a transfer stage which moves with said substrate stage on board; an electromagnetic actuator; a first measurement system

which measures a position of said transfer stage; a second measurement system which measures a position of said substrate stage; a controller which controls said electromagnetic actuator on the basis of measurement results obtained by said first and second measurement systems (paragraphs 0010, 0013-0019), but fails to clearly show a filter which performs filtering for a measurement result obtained by said second measurement system. It would have been obvious to one of ordinary skill in the art at the time of the invention to have such, since it is taught in Mizutani the use of bandwidth filters (paragraphs 0018-0019).

4. In reference to claims 2 and 3, Mizutani teaches apparatus wherein said second measurement system measures rotation of said substrate stage in addition to the position of said substrate stage (paragraph 0057), and wherein said second measurement system includes a first sensor which measures a position of said substrate stage with reference to a predetermined reference position; a second sensor which measures a position of said substrate stage relative to said transfer stage and a controller that controls the electromagnetic actuator (paragraphs 22-25), but fails to clearly show a filter which performs filtering for a measurement result obtained by said second measurement system. It would have been obvious to one of ordinary skill in the art at the time of the invention to have such, since it is taught in Mizutani the use of bandwidth filters (paragraphs 0018-0019).

5. In reference to claims 4 and 5, Mizutani teaches an apparatus wherein the second sensor is arranged to measure a relative position of said substrate stage in the vicinity of the actuator (paragraph 0057) and wherein the substrate stage has a substrate holder on said substrate stage the electromagnetic actuator and the substrate are arranged on opposite sides of a barycenter of said transfer stage in a Z-axis direction (figure 1).

6. In reference to claims 7- 9, Mizutani teaches an apparatus wherein an electromagnetic actuator includes an electromagnet as a driving source; and wherein the electromagnetic actuator includes a linear motor (paragraphs 0057, 0074, and 0075).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patents 6,392,243 (Muraki), 6,417,914 (Li), 5,717,482 (Akutsu et al), and US patent Publications 2002/0132409 (Akutsu et al), 2002/0063856 (Inoue), 2001/0006762 (Kwan et al). All of the cited references contain art similar to that being claimed by applicant, more specifically, lithography methods and apparatuses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L Smith II whose telephone number is 571-272-2481. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.

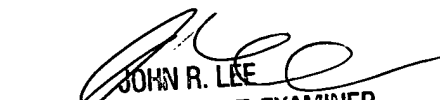
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JLSII

Johnnie L Smith II
Examiner
Art Unit 2881



JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800